

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

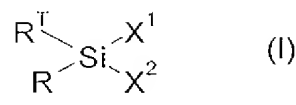
1. (Currently Amended) A process for creating a carbon-carbon bond by coupling a transferable group to an acceptor group comprising the stages steps of:

a) ~~activation of~~ activating a siliceous compound ~~carrying~~ comprising a group which can be transferred by an activating agent;

b) addition of adding a derivative carrying an acceptor group and, simultaneously or consecutively, in any order[[,]; and

c) ~~addition of~~ adding a compound of palladacycle type which acts as a catalyst of the reaction of coupling the transferable group to the acceptor group by creation of said carbon-carbon bond,

in which the siliceous compound carrying a transferable group is a dihalosilane of formula (I):



where:

X¹ and X², which are identical or different, are, independently of one another, a halogen atom selected from fluorine, chlorine, bromine and iodine;

R^T is the transferable group and is selected from an aryl, vinyl and allyl radical, wherein said radical may optionally be substituted; and

R is selected from the hydrogen atom, the R^T radical defined above, and a linear or branched alkyl radical comprising from 1 to 6 carbon atoms.

2. (Currently Amended) The process as claimed in claim 1, in which the activating agent is an anionic nucleophilic compound selected from hydroxides of alkali metals and alkaline earth metals, alkoxides, carbonates, and amides and their derivatives.

3. (Previously Presented) The process as claimed in claim 2, in which the activating agent is selected from sodium hydroxide, lithium hydroxide, potassium hydroxide, barium hydroxide, barium oxide and the potassium salt of hexamethyldisilazane.

4. (Cancelled)

5. (Currently Amended) The process as claimed in claim ~~[[4]]~~ 1, in which the dihalosilane carrying ~~a transferable group~~ of formula (I) has the following characteristics, taken in isolation or in combination:

- X^1 and X^2 are identical and are each a bromine atom or a chlorine atom, ~~advantageously a chlorine atom;~~
- R is chosen from the hydrogen atom, the R^T radical defined below and a linear or branched alkyl radical comprising from 1 to 6 carbon atoms. ~~preferably the methyl, ethyl, propyl, isopropyl, butyl, tert-butyl, sec-butyl, isobutyl, pentyl, neopentyl and n-hexyl radical, more preferably the methyl or ethyl radical;~~
- R^T is an optionally substituted aryl radical, ~~for example an optionally substituted phenyl radical.~~

6. (Currently Amended) The process as claimed in claim ~~4~~ or claim 5, in which the dihalosilane of formula (I) is ~~chosen from chlorosilanes~~ a chlorosilane.

7. (Previously Presented) The process as claimed in claim 6, in which the dihalosilane of formula (I) is diphenyldichlorosilane, methylphenyldichlorosilane or methyltolylidichlorosilane.

8. (Currently Amended) ~~The process as claimed in any one of claims 1 to 3;~~ A process for creating a carbon-carbon bond by coupling a transferable group to an acceptor group comprising the steps of:

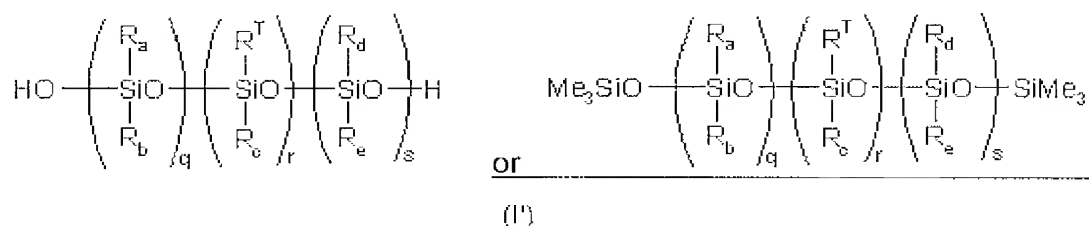
a) activating a siliceous compound carrying a group which can be transferred by an activating agent;

b) adding a derivative carrying an acceptor group and, simultaneously or consecutively, in any order, and

c) adding a compound of palladacycle type which acts as catalyst of the reaction of coupling the transferable group to the acceptor group by creation of said carbon-carbon bond,

in which the siliceous compound carrying a transferable group is a silicone oil.

9. (Currently Amended) The process as claimed in claim 8, in which the silicone oil is a polysiloxane of formula (I'):



in which.

R^T is a transferable group, as defined in claim 4 or claim 5 is an optionally substituted phenyl radical,

R_a , R_b , R_c , R_d and R_e , which are identical or different, are selected, independently of one another, from the hydrogen atom, a linear or branched alkyl radical comprising from 1 to 6 carbon atoms and the R^T radical defined above;

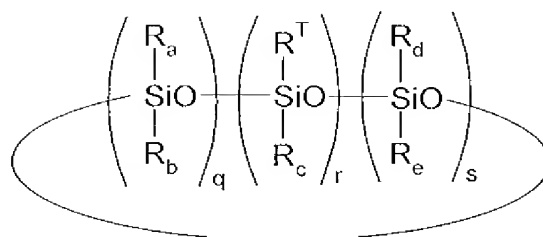
r is an integer between from 1 and 10, ~~limits included~~;

q is 0 or an integer between from 1 and 9, ~~limits included~~; and

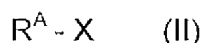
s is 0 or an integer between from 1 and 9, ~~limits included~~,

the sum $q + r + s$ being between from 4 and 10, ~~limits included~~.

10. (Previously Presented) The process as claimed in claim 9, in which the polysiloxane is in the cyclic form:



11. (Currently Amended) The process as claimed in ~~any one of the preceding~~ claim 1, in which the compound carrying an acceptor group corresponds to the formula (II):

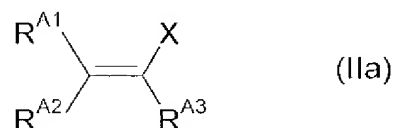


in which:

R^A is a hydrocarbon group (acceptor group) comprising from 2 to 20 carbon atoms and has a double bond situated in the α position with respect to a leaving group X or a monocyclic or polycyclic, aromatic, carbocyclic and/or heterocyclic group; and

X is a leaving group, preferably selected from the group consisting of a halogen atom or, a perhaloalkyl group, and a sulfonic ester group of formula $-\text{OSO}_2\text{-R}'$, in which R' is a hydrocarbon group.

12. (Currently Amended) The process as claimed in ~~claim 11~~ claim 1, in which the compound carrying an acceptor group corresponds to the formula (IIa):



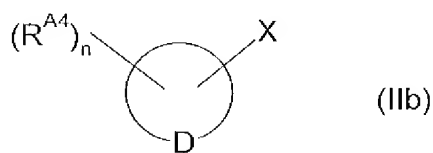
in which:

R^{A1} , R^{A2} and R^{A3} , which are identical or different, are selected, independently of one another, from ~~the~~ a hydrogen atom and a hydrocarbon group having from 1 to 20 carbon atoms which can be a saturated or unsaturated and linear or branched aliphatic group; a saturated, unsaturated or aromatic, monocyclic or polycyclic, carbocyclic or heterocyclic group; or a sequence of aliphatic and/or carbocyclic and/or heterocyclic groups; and

X symbolizes the a leaving group as ~~defined in claim 11~~ selected from the group consisting of a halogen atom, a perhaloalkyl group, and a sulfonic ester group of formula $-\text{OSO}_2\text{-R}'$, in which R' is a hydrocarbon group.

13. (Previously Presented) The process as claimed in claim 12, in which the compound carrying an acceptor group is selected from vinyl chloride, vinyl bromide, β -bromostyrene and β -chlorostyrene.

14. (Currently Amended) The process as claimed in claim 44 1, in which the compound carrying an acceptor group corresponds to the formula (IIb):



in which:

D symbolizes the residue of a ring forming all or part of a monocyclic or polycyclic, aromatic, carbocyclic and/or heterocyclic system,

X is a leaving group as ~~defined in claim 5~~ selected from a bromine atom or a chlorine atom,

R^{A4} , which are identical or different, are substituents on the ring, and

n is the number of substituents on the ring.

15. (Currently Amended) The process as claimed in claim 14, in which the compound carrying an acceptor group corresponds to the formula (IIb) where D is the residue of a cyclic compound which preferably has at least 4 atoms in the ring, preferably-5-or-6, which is optionally substituted and which represents at least one of the following rings

* a monocyclic aromatic carbocycle or a polycyclic aromatic carbocycle, ~~that is to say a compound composed of~~ comprising at least 2 aromatic carbocycles which form, between them, ortho- or ortho- and peri-fused systems or a compound composed of at least 2 carbocycles, of which one alone ~~of them~~ of said carbocycles

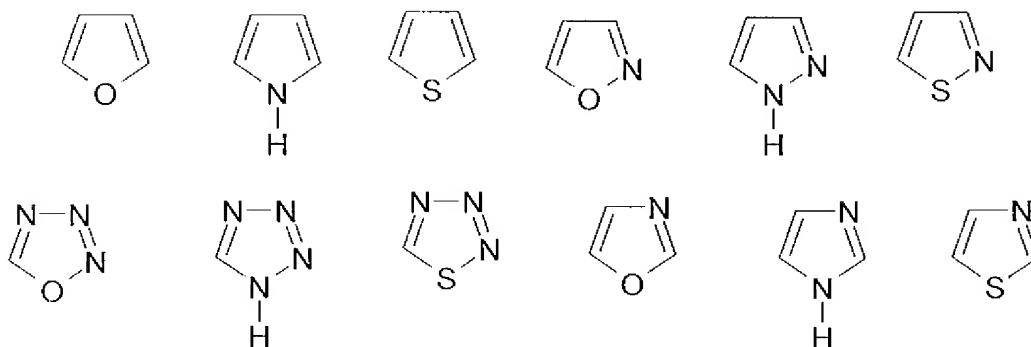
is aromatic, ~~which~~ and the at least 2 carbocycles form, between them, ortho- or
ortho- and peri-fused systems;

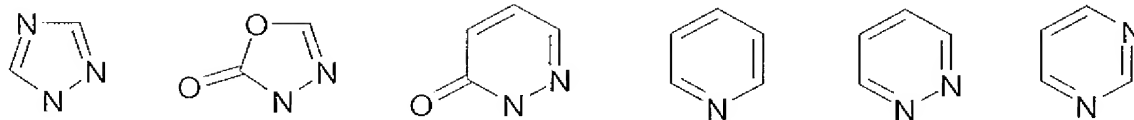
* a monocyclic aromatic heterocycle comprising at least one of the
heteroatoms heteroatom chosen selected from oxygen, nitrogen and sulfur, or a
polycyclic aromatic heterocycle, ~~that is to say a compound composed of~~ comprising
at least 2 heterocycles comprising at least one heteroatom in each ring, wherein at
least one of the two rings of which is aromatic, which form, between them, ortho- or
ortho- and peri-fused systems, or a compound ~~composed of~~ comprising at least one
carbocycle and at least one heterocycle, wherein at least one of the rings of which is
aromatic, which and said at least one carbocycle and at least one heterocycle form
[[,]] between them, ortho- or ortho- and peri-fused systems.

16. (Currently Amended) The process as claimed in claim 15, in which the
compound carrying an acceptor group corresponds to the formula (IIb) where D is
the residue of an optionally substituted aromatic carbocycle, ~~such as benzene,~~ of an
aromatic bicycle comprising two aromatic carbocycles, ~~such as naphthalene,~~ or of a
partially aromatic bicycle comprising two carbocycles, one of the two of which is
aromatic, ~~such as 1,2,3,4-tetrahydronaphthalene.~~

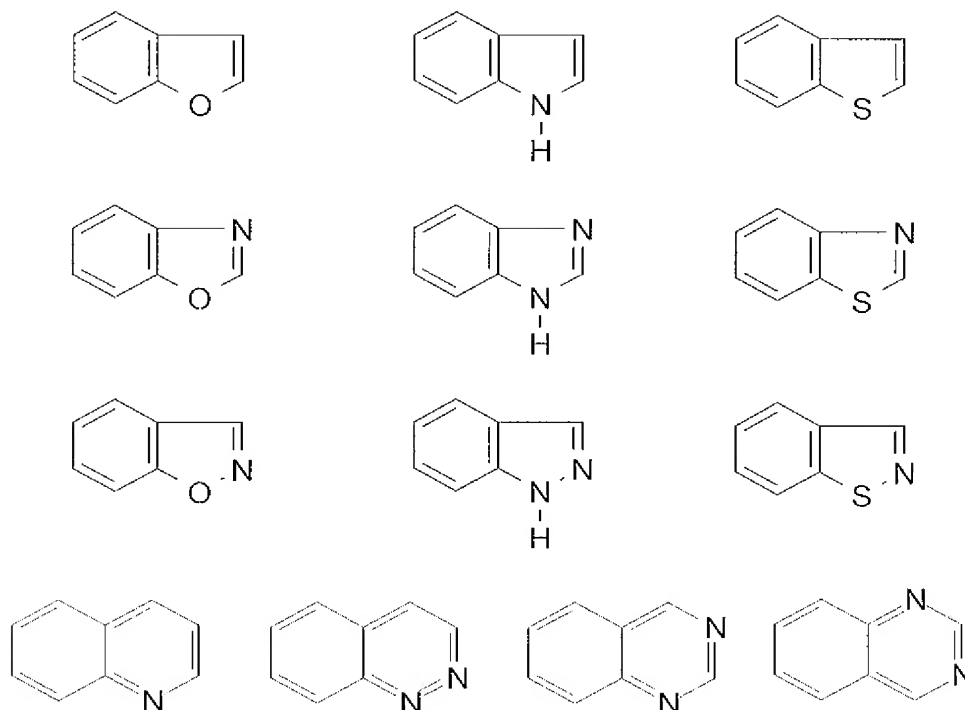
17. (Currently Amended) The process as claimed in claim 15, in which the
compound carrying an acceptor group corresponds to the formula (IIb) where D is
the residue of a heterocycle chosen selected from the group consisting of:

- an aromatic heterocycle selected from the group consisting of:





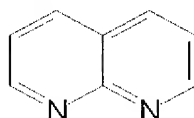
- an aromatic bicycle comprising an aromatic carbocycle and an aromatic heterocycle, said aromatic bicycle selected from the group consisting of:



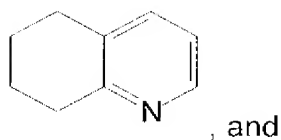
- a partially aromatic bicycle comprising an aromatic carbocycle and a heterocycle, said partially aromatic bicycle selected from the group consisting of:



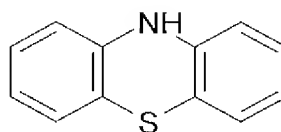
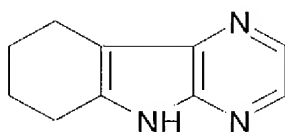
- an aromatic bicycle comprising two aromatic heterocycles:



- a partially aromatic bicycle comprising a carbocycle and an aromatic heterocycle:

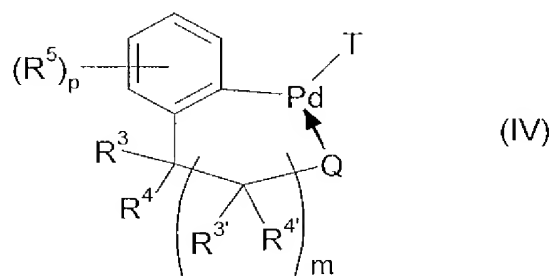


- a tricycle comprising at least one carbocycle or one heterocycle which is aromatic, said tricycle selected from the group consisting of:



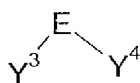
18. (Currently Amended) The process as claimed in ~~any one of the preceding~~ claims claim 1, in which the compound carrying an acceptor group is selected from p-chlorotoluene, p-bromoanisole and p-bromotrifluoro-methylbenzene.

19. (Currently Amended) The process as claimed in ~~any one of the preceding~~ claims claim 1, in which the palladacycle compound corresponds to the following formula (IV):



in which:

* Q is a group of formula (Q-1) or a group of formula (Q-2):



(Q-1)



(Q-2)

in which groups:

- E is selected from the a nitrogen, phosphorus ~~or~~ and arsenic atom;

- G is selected from the a sulfur, oxygen, selenium and carbon atom; and
- Y^3 and Y^4 , which are identical or different, are selected from:

a linear or branched alkyl radical having 1 to 16 carbon atoms which is optionally substituted by one or more phenyl, hydroxyl, halogen, nitro, alkoxy or alkoxycarbonyl groups or atoms, the alkoxy groups having 1 to 4 carbon atoms;

a linear or branched alkenyl radical having 2 to 12 carbon atoms;

an aryl radical having 6 to 10 carbon atoms which is optionally substituted by one or more alkyl groups having 1 to 4 carbon atoms, alkoxy or alkoxycarbonyl groups, the alkoxy radical having 1 to 4 carbon atoms, or halogen atoms;

it being possible for Y^3 to Y^4 and together to form a linear or branched alkylene, alkenylene or alkadienylene radical having from 3 to 6 carbon atoms;

it being possible for Y^3 or Y^4 to form, with R^4 or $R^{4'}$ and with the atoms to which they are connected, an unsaturated or completely or partially saturated 5- or 6-membered ring;

it additionally being possible for one of Y^3 or Y^4 to be hydrogen, and the other being as defined above;

it additionally being possible for Y^3 to form a bond with R^3 (or $R^{3'}$) when E is the nitrogen atom and, in this case, Y^4 can also be the a hydroxyl group;

* T is a counterion commonly understood as such by a person skilled in the art and is generally selected from the anions of the following groups: -F, -Cl, -Br, -I, -CN, -OCN, -SCN, -CF₃, -OCF₃, -SCF₃, -ONO, -ONO₂, -OSO₂N(R₆)(R₇), -SO₂R₈, -OSO₂R₈, -O(O)CR₈, -SR₈, -N₃ and -OR₈;

* R^3 , R^4 , $R^{3'}$ and $R^{4'}$, which are identical or different, are selected from the hydrogen atom and a linear or branched alkyl radical comprising from 1 to 6 carbon atoms; preferably, R^3 , R^4 , $R^{3'}$ and $R^{4'}$, which are identical or different, are the hydrogen atom or the methyl radical, more preferably the hydrogen atom; it additionally being possible for R^3 , R^4 , $R^{3'}$ or $R^{4'}$ to form, with Y^3 and/or

Y^4 and/or R^5 , together with the atoms to which they are connected, an unsaturated or completely or partially saturated 5- or 6-membered ring;

* R^5 , which are identical or different, are substituents on the ring, preferably one of the groups a group selected from the linear or branched alkyl group having from 1 to 6 carbon atoms, preferably from 1 to 4 carbon atoms, such as methyl, ethyl, propyl, isopropyl, butyl, isobutyl, *sec*-butyl or *tert*-butyl; a linear or branched alkenyl or alkynyl group having from 2 to 6 carbon atoms, preferably from 2 to 4 carbon atoms, such as vinyl or allyl; a linear or branched alkoxy or alkylthio group having from 1 to 6 carbon atoms, preferably from 1 to 4 carbon atoms, such as the methoxy, ethoxy, propoxy, isopropoxy or butoxy groups; an alkenyloxy group, preferably an allyloxy group, or a phenoxy group; a cyclohexyl, phenyl or benzyl group; an acyl group having from 2 to 6 carbon atoms; a group of formula $-R^1-OH$, $-R^1-SH$, $-R^1-COOR^2$, $-R^1-CO-R^2$, $-R^1-CHO$, $-R^1-CN$, $-R^1-N(R^2)_2$, $-R^1-CO-N(R^2)_2$, $-R^1-SO_3Z$, $-R^1-SO_2Z$, $-R^1-Y$ or $-R^1-CF_3$; in which formulae R^1 is a valency bond or a saturated or unsaturated, linear or branched, divalent hydrocarbon group having from 1 to 6 carbon atoms, such as, for example, methylene, ethylene, propylene, isopropylene or isopropylidene; the R^2 groups, which are identical or different, are a hydrogen atom or a linear or branched alkyl group having from 1 to 6 carbon atoms or a phenyl group; Z is a hydrogen atom, an alkali metal, preferably sodium, or an R^2 group; Y symbolizes a halogen atom, preferably a chlorine, bromine, iodine or fluorine atom; R^5 can additionally form, with R^3 , R^4 , $R^{3'}$ or $R^{4'}$, Y^3 , Y^4 or another R^5 substituent, together with the atoms to which they are connected, an unsaturated or completely or partially saturated 5- or 6-membered ring;

* R^6 and R^7 , which are identical or different, are the hydrogen atom or a linear or branched C_1-C_{16} alkyl group;

* R^8 is a linear or branched C_1-C_{16} alkyl group,

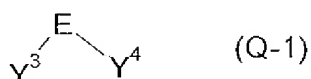
* p is the number of substituents on the ring, that is to say and has a value of 0, 1, 2, 3 or 4; and

* m is 0 or 1,

wherein it also being possible for the palladacycle of formula (IV) to exist can be present in the dimeric form.

20. (Currently Amended) The process as claimed in claim 19, in which the palladacycle of formula (IV) has one or more of the following characteristics, taken in isolation or in combination:

* Q is a group of formula (Q-1):



in which:

- E is the nitrogen atom;

- Y³ and Y⁴, which are identical or different, are a linear or branched alkyl radical having 1 to 16 carbon atoms, preferably from 1 to 6 carbon atoms, more preferably the methyl radical; it additionally being possible for or one of Y³ or Y⁴ ~~to be~~ is hydrogen, with the other being as defined above;

- it additionally being possible for Y³ to form a bond with R³ (or R^{3'}) when E is the nitrogen atom and, in this case, Y⁴ can also be the hydroxyl group;

* T is a halogen, preferably F, Cl, Br or I, preferably Cl, or a triflate or acetate group,

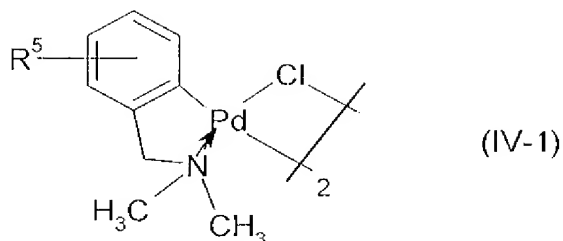
* R³, R⁴, R^{3'} and R^{4'}, which are identical different, are the hydrogen atom or the methyl radical, more preferably the hydrogen atom;

* R⁵, which are identical or different, are one of the groups selected from a linear or branched alkyl group having from 1 to 6 carbon atoms, preferably from 1 to 4 carbon atoms, such as methyl, ethyl, propyl, isopropyl, butyl, isobutyl, sec-butyl or tert-butyl; or a halogen atom, preferably a chlorine, bromine or fluorine atom;

* p is 0, 1 or 2; and

* m is 0.

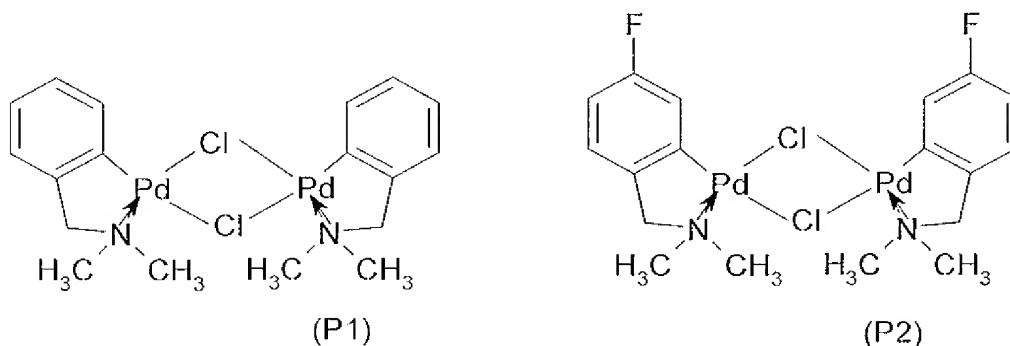
21. (Currently Amended) The process as claimed in ~~any one of the preceding~~ claim 19, in which the palladacycle corresponds to the following formula (IV-1):



in which R^5 is as defined in claim 16, preferably a hydrogen or halogen atom;

in which R^5 , which are identical or different, are substituents on the ring, selected from the group consisting of hydrogen, a linear or branched alkyl group having from 1 to 6 carbon atoms, and a halogen atom.

22. (Currently Amended) The process as claimed in ~~any one of the preceding~~ claims claim 21, in which the palladacycle is selected from the palladacycle P1 or and the palladacycle P2:



23. (Currently Amended) The process as claimed in ~~any one of the preceding~~ claims claim 1, in which the amount of catalyst employed is generally between 0.0005 mol% and 2 mol%, preferably ~~between 0.01 mol% and 1 mol%, in particular less than 0.1 mol% (1000 ppm)~~, with respect to the compound carrying the acceptor group.

24. (Currently Amended) The process as claimed in ~~any one of the preceding~~ claims claim 36, in which the solvent of stage in step a) is dioxane or anisole.

25 (Currently Amended) The process as claimed in ~~one of the preceding claims~~ claim 1, additionally further comprising, between stage step b) and stage step c), addition of the step of adding a phase transfer agent.

26 (Previously Presented) The process as claimed in claim 25, in which the phase transfer agent is selected from tetrabutylammonium iodide, tetrabutylammonium chloride, tetrabutylammonium bromide, tetramethylammonium bromide and cetyltrimethylammonium bromide.

27 (Currently Amended) The process as claimed in ~~any one of the preceding claims~~ claim 37, comprising the stages steps of:

a) ~~activation of~~ activating a dichlorosilane by an alkali metal or alkaline earth metal hydroxide,

b) ~~addition of~~ adding an aryl halide; and of

c) adding a palladacycle catalyst, optionally in the presence of a phase transfer agent; and

e) ~~separation and isolation of~~ d) separating and isolating the product of the coupling reaction.

28 (Currently Amended) The process as claimed in claim 27, comprising the stages steps of:

a) ~~activation of~~ activating diphenyldichlorosilane by sodium hydroxide;

b) ~~addition of~~ adding 4-trifluoromethyl-1-bromobenzene; and of

c) adding palladacycle catalyst P2, in the presence of tetrabutylammonium bromide as phase transfer agent; and

e) ~~separation and isolation of~~ d) separating and isolating the product of the coupling reaction, which is [4'-(trifluoromethyl)phenyl]benzene.

29 (Currently Amended) The process as claimed in claim 27, comprising the stages steps of:

a) ~~activation of~~ activating methylphenyldichlorosilane by sodium hydroxide;

b) ~~addition of~~ adding 4-trifluoromethyl-1-bromobenzene; and of

~~c) adding~~ palladacycle catalyst P1, in the presence of tetrabutylammonium bromide as phase transfer agent; ~~and~~

~~c) separation and isolation of~~ d) separating and isolating the product of the coupling reaction, which is [4'-(trifluoromethyl)phenyl]benzene.

30. (Currently Amended) The process as claimed in claim 27, comprising the stages steps of:

a) ~~activation of~~ activating methylphenyldichlorosilane by sodium hydroxide;

b) ~~addition of~~ adding 2-methyl-1-bromobenzene; ~~and of~~

~~c) adding~~ palladacycle catalyst P1, in the presence of tetrabutylammonium bromide as phase transfer agent; ~~and~~

~~c) separation and isolation of~~ d) separating and isolating the product of the coupling reaction, which is (2'-methylphenyl)benzene.

31. (Currently Amended) The process as claimed in claim 27, comprising the stages steps of:

a) ~~activation of~~ activating methylphenyldichlorosilane by sodium hydroxide;

b) ~~addition of~~ adding 4-methoxy-1-bromobenzene; ~~and of~~

~~c) adding~~ palladacycle catalyst P1, in the presence of tetrabutylammonium bromide as phase transfer agent; ~~and~~

~~c) separation and isolation of~~ d) separating and isolating the product of the coupling reaction, which is (4'-methoxyphenyl)benzene.

32. (Currently Amended) The process as claimed in one of claims 1-26 claim 37, comprising the stages of, wherein steps a, b and c comprise:

a) ~~activation of~~ activating a silicone oil by an alkali metal or alkaline earth metal hydroxide;

b) ~~addition of~~ adding an aryl halide; ~~and of~~

~~c) adding~~ a palladacycle catalyst, optionally in the presence of a phase transfer agent[[:]]

~~c) separation and isolation of product of the coupling reaction.~~

33. (Currently Amended) The process as claimed in claim 32, comprising the stages steps of:

- a) ~~activation of~~ activating methylphenylpolysiloxane by sodium hydroxide;
- b) ~~addition of~~ adding 4-trifluoromethyl-1-bromobenzene ; ~~and of~~
- c) adding palladacycle catalyst P1; and
- d) separating and isolating the product of the coupling reaction, which is [4'-(trifluoromethyl)phenyl]benzene.

34. (Currently Amended) The process as claimed in claim 32, comprising the stages steps of:

- a) ~~activation of~~ activating methylphenylpolysiloxane by sodium hydroxide;
- b) ~~addition of~~ adding 4-methoxy-1-bromobenzene ; ~~and of~~
- c) adding palladacycle catalyst P1; and
- d) separating and isolating the product of the coupling reaction, which is (4'-methoxyphenyl)benzene.

35. (New) The process as claimed in claim 1, in which step a) is carried out in a medium comprising a polar solvent.

36. (New) The process as claimed in claim 35, in which the polar solvent in step a) is selected from dioxane, tetrahydrofuran, anisole, dibutyl ether, methyl tert-butyl ether, ethylene glycol diethyl ether, diethylene glycol diethyl ether, diisopropyl ether, dioxane and anisole.

37. (New) The process as claimed in claim 1, further comprising the step:
d) separating and isolating the product of the coupling reaction.

38. (New) The process as claimed in claim 16, in which the compound carrying an acceptor group corresponds to the formula (IIb) where D is selected from benzene, naphthalene, or 1,2,3,4-tetrahydronaphthalene.

39. (New) The process as claimed in claim 5, where R in formula (I) is a linear or branched alkyl radical comprising from 1 to 6 carbon atoms selected from the group consisting of methyl, ethyl, propyl, isopropyl, butyl, *tert*-butyl, *sec*-butyl, isobutyl, pentyl, neopentyl and n-hexyl radical.

40. (New) The process as claimed in claim 20, in which Y^3 and Y^4 , which are identical or different, are a linear or branched alkyl radical having 1 to 6 carbon atoms, or one of Y^3 or Y^4 is hydrogen, with the other being a linear or branched alkyl radical having 1 to 6 carbon atoms; where it is possible for Y^3 to form a bond with R^3 (or R^3) when E is the nitrogen atom and, in this case, Y^4 can also be the hydroxyl group.

41. (New) The process as claimed in claim 40, in which Y^3 and Y^4 , which are identical or different, are a methyl radical; or one of Y^3 or Y^4 is hydrogen, with the other being a linear or branched alkyl radical having 1 to 6 carbon atoms; where it is possible for Y^3 to form a bond with R^3 (or R^3) when E is the nitrogen atom and, in this case, Y^4 can also be the hydroxyl group.

42. (New) The process as claimed in claim 8, in which the amount of catalyst employed is generally between 0.0005 mol% and 2 mol%, with respect to the compound carrying the acceptor group.